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SUBJECT: CYPRUS: SESAME REGIONAL SCIENCE PROJECT -- STILL NOT QUITE  
OPEN YET BUT GETTING THERE

REF: COROTIS-CAROUSO E-MAIL, NOVEMBER 16, 2007

(U) This cable is sensitive but unclassified. Please treat accordingly.

11. (U) Summary. On December 11 and 12, 2007, Cyprus hosted the Eleventh Meeting of the Council of the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME). Per Ref e-mail, Post ECON Officer and ECON Specialist attended the meeting to follow up on developments. The main message that came out of the meeting was that SESAME is now past the "point of no return," meaning that with a purpose-built building, nine members, some key equipment sourced, and apparent momentum, the project will result in a full-scale experimental facility by the target date of 12011. Budget issues still loom large but the Council is hopeful to overcome them. Although the project is not geared to be cutting edge from a technological point of view, the main expected benefits are to be found in closer regional cooperation in a troubled part of the world. Background and highlights from the Cyprus meeting follow. End Summary.

#### SESAME Background

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12. (U) Synchrotron radiation, emitted from particle accelerators, is used for a host of scientific experiments. Put simply, scientists use synchrotron radiation in conjunction with "super microscopes" to better understand the nature and structure of materials. SESAME is planned to focus on five scientific domains: physical science, biological and medical sciences, environmental sciences, industrial applications, and archaeology.

13. (U) SESAME came into existence as an intergovernmental organization on 15 April 2004 under the auspices of UNESCO.

Current members of SESAME are Bahrain, Cyprus, Egypt, Iran, Israel, Jordan, Pakistan, the Palestinian Authority and Turkey and Iran (since August 2007). Observer countries are France, Germany, Greece, Italy, Kuwait, Portugal, Russian Federation, Sweden, U.K. and the United States. In addition Japan and the United Arab Emirates, deeply involved in the early stages of the project, are in the process of confirming their status in the Center.

¶4. (U) SESAME will provide the region of the Middle East with a world-class laboratory for basic research and numerous applications. There are now more than 50 operating synchrotron sources around the world, but this will be the first in the Middle East and the Mediterranean.

¶5. (U) A used injection system donated by Germany (BESSY I 800 MeV injection system) is already in Jordan and will be installed in the new building soon. The EU has provided USD 1 million to facilitate the purchase of equipment and installation of the injection system.

#### Cyprus Meeting

¶6. (U) The main message that came out of the Cyprus meeting was that SESAME is now past the "point of no return." Construction of the SESAME building (just the building, not the necessary equipment inside) is currently in its final stages and is scheduled for a "soft inauguration" either in July or November 2008. The building is situated on land in Allan, Jordan donated by the Government of Jordan. Construction costs were around USD 7 million.

¶7. (U) The main challenges lying ahead consist of: (a) raising USD 15-30 million to procure the necessary scientific equipment; and (b) securing increased budget commitments from participating nations and other donors to cover the project's escalating operating expenses.

¶8. (SBU) Regarding hardware, SESAME currently needs to raise about USD 15 million for the procurement of a new 2.5 GeV third generation storage ring with a circumference of 130 m, an emittance of 26 nm-rad, and space for 12 insertion devices has been designed. Technical components of this ring (magnets, vacuum system, RF system, power supplies, etc.) are designed and ready to go out for bids. Iran has offered to build the magnets. SESAME is hoping that the EU will provide these funds although, to date, no such commitment has been secured (see below). Further down the line, SESAME will have to raise another USD 15 million from sources in the United States for the necessary beam lines. (Amy Flatten of the American Physical Society, who attended the Cyprus meeting, studiously avoided talking about money, although she noted that APS had decided to take a more active role in SESAME, and that the U.S. scientific community was strongly supportive of the project.)

¶9. (SBU) Regarding human resources, SESAME currently has 15 employees, including a part time Director, a full time Technical Director, an Administrative Officer, and a part time Scientific Director. The accelerator/technical staff includes 8 full time scientists and engineers from the Middle East, with plans to hire more over time. A vigorous training program is already underway for accelerator scientists and engineers, beam line scientists, and users with funds from the International Atomic Energy Agency, the International Center for Theoretical Physics, the U.S. Department of Energy, and synchrotron radiation labs around the world that host SESAME visitors.

¶10. (SBU) SESAME's 2008 budget, approved at the Cyprus meeting, calls for total spending of USD 1.4 million. Salaries and allowances for directors and staff make up 75 percent of this budget. Based on current revenue projections, SESAME expects to incur a deficit of around USD 480,000 in 2008, a worrisome prospect indeed. This means that without a commitment for additional spending by the parties, SESAME will run into serious financial problems in the near future. Furthermore, once the lab becomes operational (2011), yearly spending is projected to rise to USD 4.0 million.

¶11. (U) One of the Cypriot participants also gave an interesting overview of R&D spending in Cyprus. Cypriot R&D spending has gradually increased from 0.18 percent of GDP in 1991 to 0.41 percent

in 2005. Even so, Cyprus remains a laggard in the EU in terms of R&D spending, ranking 17th out of 27 countries, so the GOC wants to raise this further. However, the main problem with Cypriot R&D spending is that the bulk of it comes from the government -- only 20 percent comes from the private sector. This is attributed to weak links between academia and the private sector. The GOC, through the Planning Bureau, is trying to change all this and encourage more active participation from the private sector.

#### A Helping Hand from Cyprus

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¶12. (SBU) Cyprus is the only EU country member of SESAME. Its partners in SESAME are investing much hope that Cyprus will help promote their quest for funds from the EU. However, a Cypriot conference participant in the conference told us in private that the EU was unlikely to provide these funds out of its research budget, since the technology to be used is no longer cutting edge. However, he was still hopeful that the EU might agree to fund this out of foreign assistance or foreign affairs funds given the symbolic importance of Israel, Iran and Arab nations in a cooperative venture.

¶13. (SBU) The same official also confided that SESAME had tried to get Cyprus interested in building the project on Cypriot soil. However, at the recommendation of the Planning Bureau, the GOC dismissed the idea as "too costly." The official also made it clear that Cyprus did not intend to take the lead on SESAME, financially or otherwise. Cyprus contributed just USD 62,500 to the project in 2007 and should have no problem committing similar amounts in the future.

¶14. (SBU) The last Users' Meeting, the sixth of its kind, in Jordan (November 17-19, 2007), attracted around 220 scientists, compared to only about 70 at the previous meeting. About 100 of the scientists were from Jordan, and the remaining 120 from Egypt, France Germany, Israel, Iran, Japan, Pakistan, etc). The strong participation in the Users' Meeting was good news for SESAME, in that it demonstrated real scientific interest in the project.

¶15. (SBU) However, financial issues still need to be sorted out. During the last Users' Meeting, a Cypriot proposal to divide funding obligations based on each country's economic size was greeted with skepticism. Instead, the other participants suggested that member countries should contribute according to their GDP per capita, a suggestion dismissed outright by the Cypriot delegation. In a nutshell, funding remains the biggest problem. Several participants at the Cyprus conference privately expressed to us their exasperation at the fact that oil-rich countries in the region had so far not committed any funds.

¶16. (U) Cyprus can also help SESAME by serving as a computer hub. Cyprus already has modern telecommunications infrastructure, giving it unhindered broadband access to EU data processing and "super-computer" centers. Cyprus has offered use of its infrastructure to help SESAME process the massive amounts of data generated, contingent on identifying the necessary funds to cover connectivity fees.

¶17. (U) Notably, Cyprus Planning Bureau Director Andreas Moleskis has been appointed Chairman of SESAME's Finance Committee. His department is currently conducting a financial viability study for SESAME.

#### Regional Cooperation Sometimes Can Only Go So Far . . .

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¶18. (SBU) SESAME promises to bring together scientists in a troubled part of the world. Sometimes, though, this is easier said than done. The Israeli representative to SESAME told us privately that, assuming that all practical issues were resolved and SESAME got off to a flying start in 2011, Israeli scientists in this field might still opt to continue using similar labs in Europe, instead of SEASAME in Jordan, due to security concerns. The same representative told us that Israel, a leader in R&D in the region, did not find it cost effective to set up its own synchrotron lab, which is why the 50-or-so Israeli scientists in this field regularly visit labs in Europe. Hard political realities on the ground may

also lie behind the absence of the Turkish representative from the Cyprus meeting. Even though the GOC had cleared all visa obstacles, the visit did not take place, reportedly "due to personal hindrances" of the Turkish delegate -- an excuse few believed in Cyprus.

¶19. (U) The next SESAME Council meeting has been scheduled to take place in Upsala, Sweden, June 9-10, 2008 and the following one in Jordan, in November 2008.

¶20. (SBU) Comment: SEASAME has gathered considerable momentum since its inception although funding issues still loom large. At this

juncture, funding commitments of the order of USD 15 million need to be made soon, if the project is to come on line in 2011 as planned. Professor Sir Chris Llewellyn-Smith has been nominated as President-elect for a five-year term at SESAME, to succeed incumbent President, Professor Herwig Schopper. Sir Llewellyn-Smith brings considerable experience and connections to the table from such globally-acclaimed institutions as the European Organization for Nuclear Research (French: Organisation europeenne pour la recherche nuclaire), commonly known as CERN. Smith delivered a well-received speech at the Cyprus SESAME conference, reflecting his personal commitment and drive to put all his considerable experience behind this project -- certainly a good omen for SESAME. Whether the oft-repeated phrase that SESAME is "past the point of no return" in achieving a fully functioning experimental synchrotron or not will depend on whether donors and/or new members show up with funding soon. End Comment

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